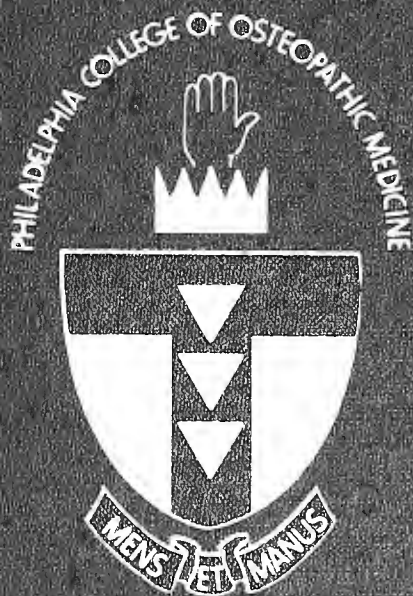


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ATLAS
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OSTEOPATHIC
TECHNIQUES

ATLAS OF OSTEOPATHIC TECHNIQUES

N. S. Nicholas, B.S., D.O., F.A.A.O.

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OSTEOPATHIC MEDICINE

Osteopathic Medicine is a complete and comprehensive system of medical practice which recognizes that the neuro-musculoskeletal system is of major importance to human life and includes as its basis the inter-relationships between this major system and the body's internal environment.

The Osteopathic Physician incorporates evaluation and treatment of the musculoskeletal system as a basis for his approach to health and disease. This is not to the exclusion of the diagnostic and therapeutic modalities incorporated by other scientific approaches to the healing arts.

It should be made clear that the Osteopathic Profession maintains its own schools of education, its own system of hospitals, and produces large numbers of General Practitioners in addition to training specialists in all fields.

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PHILADELPHIA COLLEGE OF
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SECOND EDITION, 1980

PREFACE

This textbook of osteopathic techniques has been compiled with photographic depictions and descriptive narratives to better illustrate myofascial and osteopathic manipulative procedures that have been used successfully in the profession for many years. We are not attempting to teach osteopathic principles nor their application for various conditions, but merely to demonstrate the most widely employed techniques, primarily for use in student teaching and for reference.

APPRECIATION

I wish to express my sincere thanks and appreciation to the following for their help and cooperation in the preparation of the material in the compilation of this atlas of osteopathic manipulative techniques:

Faculty

David Heilig, D.O., F.A.A.O.
Robert W. England, D.O., F.A.A.O.
Alexander Nicholas, D.O.
Jerome Sulman, D.O.
Marvin E. Blumberg, D.O., F.A.A.O.
Galen D. Young, D.O.
John Sheetz, D.O., M.Sc.(Ost.) F.O.C.O.

Students

Thomas Falone
Michael Saltzburg
Ronald Kludo
Douglas Gilbert
Anthony J. Silvagni,
Pharm.D., M.Sc.

Department of Educational Communications

Donald Hulmes—Graphics
G. Walter Webb—Photography

This volume is respectfully dedicated
to
my dear wife, Marika
and to
my three sons
Alexander, Evan, and George

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CERVICAL MYOFASCIAL TECHNIQUES

Patient Supine—Head is rotated to the left; physician at the right side of table; the thenar eminence of the left hand is placed just below the mastoid process of the left side. A gentle springing pressure is exerted downward over the temporal bone by the right hand in order to "stretch" the tissues.

This, of course, can be done in the same manner to the opposite side by reversing the procedure.



Cupping Chin and Occiput—The patient is in the supine position; the right hand cups the chin; the left hand the occiput, with the thumbs in a natural position. There is gradual cephalad traction produced through both hands, then the atlanto-occipital, atlanto-axial, and the rest of the upper cervical segments are put through their range of motion springing where tension appears with the release being gradual. You may then bring the head up free from the end of the table so that backward bending into the mid and lower cervical areas can be added.



Forearm Fulcrum—Patient is supine, the right forearm is placed under the cervical column perpendicular to the axis of the body with the hand resting on the table just below the patient's head. The patient's head is now rolled across the physician's right forearm using the left hand of the physician to direct the head. This is done very gently for the forearm is considerably less sensitive to pressure than the hands. The procedure is reversed to work the opposite side.



CERVICAL MYOFASCIAL TECHNIQUES



Bilateral Forearm Fulcrum for Forward Bending—Patient supine—the physician reinforces the fulcrum arm with the other forearm forming a V-shaped cradle for the patient's occiput and slowly increases the pressure in forward bending.



Head-Chest Position—The patient is sitting on a table or stool with the physician facing the patient. The patient's frontal bone is placed against the physician's chest and the physician's hands or index fingers reinforce each other in the posterior cervical area. The patient is then drawn toward the physician and a slight exaggeration of movement is produced forward and upward with a springing motion.

Modification: Patient's head is turned to the side and side-bending is produced. Excellent geriatric technique.



Sitting Traction—The patient is sitting with the physician standing behind and to the left side of the patient. The physician's right foot is placed on the stool behind the patient and the physician's right elbow is placed on his right thigh. Now the right hand sustains the occiput with the thumb and forefinger and the left hand sustains the forehead. Traction is produced by gently elevating the right thigh and knee by lifting the heel of the right foot. Traction is released by slowly returning the right heel to its original position.

CERVICAL MYOFASCIAL TECHNIQUES

Lateral Traction—The patient is sitting on a stool, with the physician behind and to the right side of the patient. The physician passes his right hand around the front of the patient's face resting on the patient's mandible. The physician's fingers are back toward the occiput, drawing the patient's head over to the physician's chest. The physician's left hand is placed on the patient's left shoulder. Gentle traction is applied to the head in an upward direction with countertraction downward on the shoulder. Procedure may be reversed.



Counter-Lateral Traction Technique — The physician stands at the side and head of the table with the patient lying supine on the table. The physician places one hand on the frontal bone of the patient, the other hand on the lateral aspect of the cervical spine along the articular facets. Now while applying pressure on the frontal bone away from the physician, the other hand stretches the musculature of the cervical area toward the physician. This procedure may be reversed.



Supine Thumb Rest — The patient is supine and may or may not use a small pillow. The physician is standing or sitting at the head of the table. The thumb and forefinger of the physician's left hand cups the posterior cervical area, with the palm toward the occiput. The physician's right hand is over the temporal and frontal regions and brings the head into a slight backward bending with rotation against the thumb. The motion is very slight. Tension (pressure) is relaxed slowly and reapplied slowly. Procedure may be reversed.





Supine Forefingers Cradling — The patient is supine. The physician is standing or sitting at the head of the table. The physician's hands cradle the temporal regions (avoiding pressure over the ears) and the fingers are allowed to find the tissues about the articular column. The patient's head is slightly backward bent, then sidebent and rotated from side to side bringing alternate pressures behind the articular column with the fingertips.



Cradling with Traction—(Lower cervical)—A modification of the above technique. The patient's head is allowed to rest free on a pillow, the palms of the physician's hands cradle the temporal regions avoiding pressure over the ears. The physician's fingers are close to the cervical spines and bring anterior pressure bilaterally with slight traction through the arms of the physician.

THORACIC MYOFASCIAL TECHNIQUES

Prone Pressure—The patient is prone. The physician is at side of table and facing patient. The thumb and thenar eminence of one hand is reinforced by the palm of the other hand. The physician's hands are placed on the far side of the patient's spine between the spinous and transverse processes. The pressure is downward and outward, continuous or intermittent.



Prone Pressure with Counterpressure—This is similar to the one above except one hand (thenar eminence) exerts pressure downward and cephalad, while the other hand applies counterpressure so that there is locking of the thoracic vertebrae, hence any motion is imparted to the ribs. The hands are straddling the spinous processes.



Thumb Pressure—The patient is prone. The physician is at the head of the table facing the patient. The physician's hands are placed with the thumbs close to the spinous processes and fingers outstretched laterally. Pressure and kneading are done with the thumbs. This can be combined with respiratory movements.

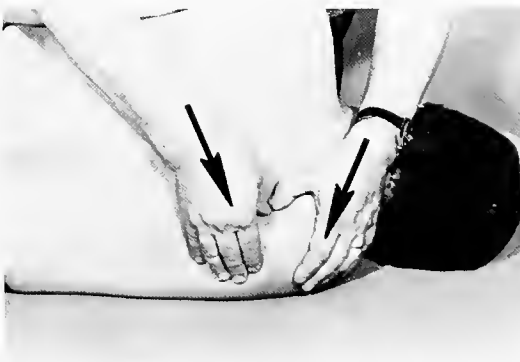




Lateral Recumbent with Shoulder Block—The patient is in the right lateral recumbent position, with the physician facing the patient at the side of the table. The physician's right forearm is slipped under the patient's upper left arm and his fingertips find the area supero-lateral to the spinous processes. The physician's left hand restrains the shoulder as the fingertips of the right hand are pulled toward the physician. This procedure may be reversed.



Lateral Recumbent under the Shoulder—The position is the same as the above technique except that the physician's left hand slips under the patient's left upper arm and assumes a position alongside the right hand. The patient's shoulder will automatically be restrained by the physician's left forearm. This procedure may be reversed.



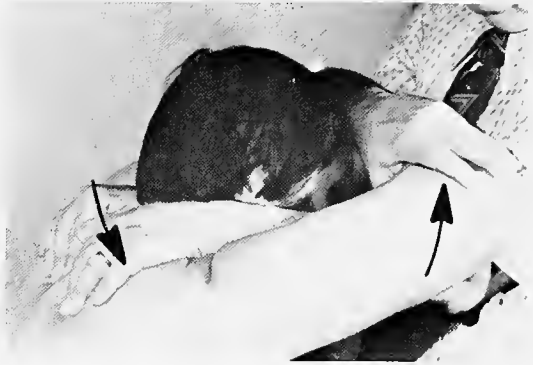
Interscapular (Far Side) Technique — The patient is in the right lateral recumbent position. The physician is facing the patient at the side of the table. The physician's arms reach across the patient and the thumbs are placed in the rhomboids of the patient's right side. Pressure and kneading is done with the thumbs and is continuous or intermittent. This procedure may be reversed.

THORACIC MYOFASCIAL TECHNIQUES

Side Leverage Technique — The patient is lying on his right side, his left arm straight down along his side. The physician is sitting on the edge of the table, the physician's right arm locking the patient's left arm. The physician's thumb is placed over the spinous process of the lower of the two in lesion. Patient's head is cupped with the physician's left hand and brought gently upwards with sidebending and forward bending. Backward bending can also be employed with the side bending. This procedure may be reversed.



Under-Over Technique and Modification—The patient is sitting with his arms crossed in front of his chest and his thumbs hooked in each of his ante-cubital fossae. The physician is standing facing the patient. The physician's hands are placed under the patient's forearms and over his shoulders with the physician's fingers contacting the tissues over the transverse processes of the thoracic vertebrae. The patient is drawn toward the physician and springing is accomplished by an upward leverage on the forearms and a downward pressure exerted through the fingertips.



Prone Elbow Support for Upper Thoracic —The patient is prone and his elbows are perpendicular to his body. His hands are crossed or his forearms are placed straight ahead in a parallel position depending on the degree of flexion of his head. The physician stands to the left side of the table facing the patient. The patient's upper thoracics are fixed with the physician's right hand, (either thumb, thenar eminence, or palm) just below the area of involvement. The physician's left hand is placed over the occiput forward bending the cervical region and then gently springs downward.





Prone Elbow Support with Calf Hold (Mid and Lower Thoracic)—The patient's position is the same as the Prone Elbow Support for Upper Thoracic. Now the physician moves to a position next to the patient's left thigh. The physician's right hand holds the patient's left calf. His left hand straddles the spinous processes anterior to the affected thoracics with his fingers in a cephalad direction. Springing is forward and upward with the left hand.



Patient Sitting — Rib Raising with Extension (Backward Bending)—The patient's hands are clasped behind his neck. The physician supports the patient's elbows with one hand while his other hand straddles the spinous processes. The physician elevates the patient's elbows as backward bending pressure is exerted forward and upward with his dorsal hand. With the physician's hand lateral to the spine, specific rib areas can be reached.

THORACIC MYOFASCIAL TECHNIQUES

Thoracic Traction Stretch Technique — The patient is sitting with his hands clasped behind his neck. The physician stands behind the patient with his arms under the patient's axillae and his hands grasping the patient's wrists or reinforcing the patient's hands. The physician's arms and hands simply maintain this position, while the patient's entire trunk is backward bent and/or rotated or sidebent.



Sitting Elbow Support Technique — The patient is seated on a stool facing the table. He then bends forward placing his elbows on the treatment table to support his trunk. The physician is standing to the right side maintaining forward bending of the head with his right hand, while springing downward in the thoracic area with his left hand.



Straddle-Backward Bending Technique — The patient straddles the table with his arms extended and placed forward so that his hands grasp the sides of the table. Backward bending of the patient's trunk is attained by pressure of the physician's hand straddling the patient's spine.





Supine-Extension Technique (Table or Bed)—

The patient is supine and the physician is to one side. The physician's fingers are placed with the palms up under the near side of and as close as possible to the thoracic spinous processes. The pads of the fingers elevate as the forearms or elbows are used as a fulcrum. Continuous or intermittent pressure is used.



Supine Flexion — The patient is supine with his thighs drawn up and flexed on his abdomen and his legs flexed on his thighs. The physician stands on either side and places one hand on the patient's chest for stability. The other hand grasps the patient's knees and springs downward through the thighs. The position of the thighs may be altered to produce sidebending or rotation.



Supine with Leverage—The patient is supine with thighs drawn up and feet on the table. The physician stands on the right side of the patient. The patient's knees are grasped by the physician's right hand and pulled toward the physician so that the left hand can reach across the patient and under the opposite side. As the left hand applies pressure lateral to the lumbar spinous processes the knees are pushed with the right hand toward the opposite side. This procedure may be reversed by having the physician on the other side of the table and reversing hands.



Prone Pressure over Sacrum — Intermittent sacral pressure with hands reinforcing each other over the sacrum.



LUMBAR MYOFASCIAL TECHNIQUES



Prone Pressure with Counter-Leverage — The patient is prone. The physician is to the left and exerts a deep pressure with his left hand in the right lumbar area on the right paravertebral musculature. His right hand is placed under the right anterior superior iliac spine pulling with counter-leverage. A counter-springing motion is also used with this technique. The procedure is changed to use on the patient's left lumbar area.



Prone Pressure with Crossed Hands over Lumbar and Sacrum—The left hand crosses and maintains a pressure downward and caudad on the sacral promontory. The physician's right hand straddles the lumbar spinous processes and pressure is applied downward and cephalad.



Prone Scissors Techniques—The patient is prone. The right lower limb remains extended as it is brought across the popliteal space of the left lower limb. The physician stands on the left side of the patient and with his right hand maintains the position of the lower limbs while the left hand produces a springing motion downward toward the table and laterally in the lumbar and pelvic areas. This also can be reversed by having physician on the other side of the table.



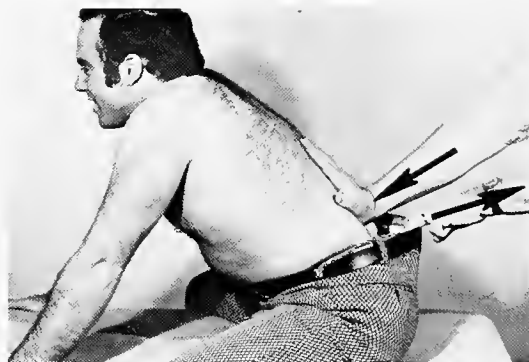
Modification of the Prone Scissors Technique—Same as preceding, except the physician's right hand is placed between the patient's knees to maintain scissors.

LUMBAR MYOFASCIAL TECHNIQUES

Sitting Lumbar Technique—The patient is sitting astride the table near one end, his arms are extended and placed forward so that the hands grasp the side of the table and the back is held in a slight forward inclination. The physician holds one hand against the lumbar vertebrae and produces a forward springing motion increasing the backward bending (extension) in the lumbar area.



Modification of Sitting Lumbar Technique with Belt Traction—Same as above, but the physician's free hand draws back gently on the patient's belt or a towel placed around the patient's abdomen.



Lumbar Downward Springing Technique with Straddle—The patient is sitting astride the end of the treatment table with his left hand behind his neck and his right hand on his left elbow. The physician is to the right side of the patient reaching under the patient's right upper arm with his right hand grasping the patient's left upper arm. The patient's weight is allowed to drop forward on the physician's right arm. There is now a left forward rotation and elevation with the physician's right arm and a downward springing motion with the left hand to the lumbar area. This technique can be reversed and performed from the other side.



LUMBAR MYOFASCIAL TECHNIQUES



Supine Bed Extension—The patient is supine and the physician may be on either side of the patient. The physician's fingers are placed with the palms up under the near side of and as close as possible to the lumbar spinous processes. The pads of the fingers elevate as the forearms or elbows are used as a fulcrum. Continuous or intermittent pressure is used.



Prone Bilateral Pressure Technique — The patient is prone. The physician stands on either side of the patient. His hands are placed with the thumbs close to the lumbar spinous processes and fingers outstretched laterally. Deep pressure and kneading are done with the thumbs.



Lateral Recumbent Technique—The patient is in a right lateral recumbent position with his knees flexed above the level of the abdomen. The physician's fingers hook over the proximal transverse processes or in the soft tissues of the proximal paravertebral area. The physician's fingers pull toward him while counterpressure is applied by the physician's thigh or thighs against the patient's knees. This procedure is changed for the right lumbar area.

CERVICAL MANIPULATIVE TECHNIQUES

Occipito-Atlantal Techniques — 1st Method —

The patient is supine and the physician is at the head of the table. If the occiput is anterior on the left and/or posterior on the right, the physician places his thumb and index finger of his left hand posterior to the arch of the atlas, with his thumb on the left side and the index finger on the right side. These fingers support the cervical area in slight backward bending. The right hand is placed on the forehead and using this hand the cervical area is sidebent to the left and rotated to the right. The corrective force is delivered with the right hand, which exaggerates the rotation, sidebending against the thumb which acts as a fulcrum. Care is taken to avoid excessive deep pressure over the vertebral artery.



Occipito-Atlantal Techniques — 2nd Method —

The patient is supine and the physician is at the side of the head of the table. If the occiput is posterior on the left, the physician's right hand cups the chin and rotates the head to the right and with a slight sidebend to the left. Now the physician applies pressure to the occiput with the hypothenar eminence of the left hand. When complete "locking" is attained, a force with the left hypothenar eminence is made on a line through to the right orbit, which causes a gapping between occiput and atlas. The procedure is changed if the lesion is on the right.



Occipito-Atlantal Technique — 3rd Method —

The patient is supine and the physician is at the side of the head of the table. If the lesion is on the right, the physician cups the patient's chin in his left hand with the patient's head resting on the physician's forearm. Now he rotates the chin away from the side of the lesion and sidebends toward the side of the lesion with a slight amount of backward bending. The index finger of the physician's right hand is placed postero-lateral to the occiput. The thrust is delivered with the index finger in the direction of the opposite orbit.



CERVICAL MANIPULATIVE TECHNIQUES



Atlanto-Axial Technique—1st Method — The patient is supine and the physician is at the side of the head of the table. If the lesion is on the right, the physician cups the patient's chin in his left hand with the patient's head resting on the physician's forearm. The physician's right index finger is postero-lateral to the posterior arch of the atlas and the thumb of the same hand is on the ramus of the mandible. The cervical column otherwise is in a neutral position. The corrective force is rotational. This procedure is changed if the lesion is on the left.



Atlanto-Axial Technique—2nd Method—The patient is supine and the physician is at the side of the head of the table. If the lesion is on the right, the cervical area is rotated to the left, with the temporal bone resting on the palm of the left hand. The physician's right hand is placed on the ramus of the mandible with the fingers extending downward toward the chin. This hand is used to suddenly increase the left rotation by pressing downward toward the table on the ramus of the mandible. The cervical column is otherwise kept in a neutral position. This procedure is changed if the lesion is on the left.



Cervical Technique (3rd to 7th Cervicals Inclusive) — 1st Method — The patient is supine and the physician is at the side of the head of the table. If the lesion is on the right, the physician's left hand cups the chin and rotates the cervical area to the left and sidebends to the right. The index finger of the right hand is placed postero-laterally to the articular process of the upper of the two in lesion. After 'locking' rotation, there is sidebending with slight backward bending with the left hand the thrust being given with the right index finger in an arc conforming to the plane of the facets at that point. This procedure is changed if the lesion is on the left.

CERVICAL MANIPULATIVE TECHNIQUES

Cervical Technique (3rd to 7th Cervicals Inclusive)—2nd Method—The lesion is on the right. The patient is supine and the physician stands at the side and head of the table with his left hand under the patient's left temporal bone. With his left hand the physician rotates the patient's head away from the side of the lesion and sidebends it towards the side of the lesion. The index finger of the right hand is posterolateral to the articular process of the upper of the two in lesion. The patient's head may be flexed or extended depending on the cervical curve, and then a corrective thrust is made with the index finger in an arc conforming to the plane of the facets at that point. The left hand under the left temporal bone acts entirely as a control or counterforce since it merely holds the position. The procedure is changed if the lesion is on the left.



Lower Cervical Technique Variation — When the lesion is located in the lower cervical area, the physician may use the hypothenar eminence for the thrust.



CERVICAL MANIPULATIVE TECHNIQUES



A. *"Indirect Technique" — Cervical Technique Variations — The lesion is on the right —* The patient is supine and the physician is at the head and side of the table. The index finger of the right hand is placed at the articular pillar of the lower vertebra of the two in lesion. The index finger of the left hand is placed on the articular pillar of the upper vertebra of the two in lesion. Now the cervical column is rotated to the left and sidebent to the right and when "rotation locking" is accomplished, the rotation is increased by the left hand. The procedure is changed if the lesion is on the left.



B. *Method II — The lesion is on the right —* Same as above: The emphasis must be made that in the "indirect" technique only a *holding* force is applied by the finger on the lower of the two in lesion.

Upper Thoracic Technique — Supine — 1st Method — The lesion is on the left. The patient is in the supine position, and the physician stands at the right side of the patient. The physician crosses the patient's arms, instructing the patient to grasp the opposite shoulders with his hands. The physician then places his right hand under the lower of the two vertebrae in lesion. The patient's elbows are then placed in the physician's abdomen, just under the costal arch.

a. *Backward bending:*

The physician's left hand is placed posterior to occiput and the patient's head is forward bent toward the operator. Slight pressure is then applied through the operator's abdomen toward the upper of the two vertebrae as the patient's head is allowed to drop back.

b. *Forward bending:*

The head is raised as before, but the fulcrum of the right hand is placed posterior to the upper of the two lesioned vertebrae. As you apply slight pressure toward the lower of the two vertebrae, the head is brought into further forward bending.



THORACIC MANIPULATIVE TECHNIQUES



*Upper Thoracic Technique—2nd Method—*The lesion is on the left. The patient is in a right lateral recumbent position and the physician is sitting on the table facing the patient. The physician's left hand is placed under the occiput, and his right thumb contacts the spinous process of the lower of the two in lesion, pressing downward toward the table. The physician sidebends upward and forward bends the cervical column and rotates the face toward and away from him testing resistance. After selecting the point of least resistance, the thrust is made in the form of an upward thrust lift with the left hand while maintaining the downward pressure with the right thumb on the spinous process. The procedure is changed if the lesion is on the right.



*Upper Thoracic—Sitting and Arms Crossed—*The patient is sitting on the table or on a stool. The physician stands behind the patient and crosses the patient's arms, grasping the elbows and pulling them laterally as far as possible to separate the scapulae. The physician places his foot on the table and his knee with, or without, a pillow, behind the lower of the two in lesion. The thrust is made in a forward direction while drawing the patient backward with the arms.

THORACIC MANIPULATIVE TECHNIQUES

Upper Thoracic Technique—Sitting—Converging forces—The lesion is on the left. The patient is sitting. The physician stands behind the patient and places his right foot on the table. The patient's right arm is draped over the physician's right thigh with the physician's leg close to the patient's body. The physician's right hand is placed on the top of the patient's head with the forearm against the right side of the face. The physician sidebends the patient's head to the left and rotates it away from (or towards, if the resistance is too great), the side in lesion. The thumb of the physician's left hand contacts the transverse process of the lesioned vertebra and the thumb thrust is given in a forward and downward direction. This procedure is changed if the lesion is on the right. This method may also be used in rib manipulative techniques for the upper three ribs.



Upper Thoracic Technique with Knee under Patient—The patient is supine. The physician is at the head of the table with one knee flexed on the table and the patient's upper thoracic area resting on the physician's thigh. The patient's hands are clasped behind his neck with the elbows outward. The physician passes his hands under the patient's forearms and encircles the patient's ribs with the tips of the fingers over the rib angles. The physician's arms press downward on the patient's shoulders while his hands and fingers lift upwards.



THORACIC MANIPULATIVE TECHNIQUES



Upper Thoracic — Prone with Pillows under Chest — 2 Positions — A. This technique is used mostly in patients who have hypermobility and locking is difficult when the primary force is against the transverse process of the lower lesioned vertebrae. The patient is prone with his face turned so that his cheek rests on the table. The physician stands to the side of the table towards which the occiput is directed. The physician's cephalad hand cups the patient's chin with his forearm resting on the patient's face, producing an extreme rotation. Use caution in this maneuver. The physician's thenar eminence of the other hand delivers a thrust against the proximal side of the spinous process.

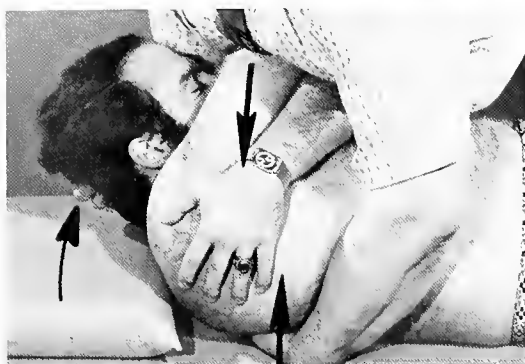


B. This technique is the same as above except it is used for individuals who have a relatively flat thoracic area. Use enough pillows under the upper chest wall in order to increase the kyphosis of the patient's upper thoracic area. The physician is at the head of the table with the patient's head rotated to the side of the lesion and sidebent away from the side of the lesion. The physician's thenar eminence is placed against the transverse process of the lower of the two in lesion while the other hand thrusts the head in an exaggerated sidebent position. This may be modified by moving out to the angle of the ribs to become a 'rib' technique.

Mid-Thoracic Technique—Supine—1st Method—
 The lesion is on the left. The patient is supine with his arms crossed over his chest with each hand grasping the opposite shoulder. The physician stands on the right side of the table facing the patient. Using his left hand, the physician rolls the patient toward him by lifting the patient's shoulder far enough to place his right thenar eminence under the lower of the two lesioned vertebrae. He then places the patient's elbows in his axilla and delivers a thrust in a downward (toward the table) and slightly cephalad direction. This force is directed toward the upper of the two vertebrae in lesion to produce backward bending. This procedure is changed if the lesion is on the right. See also upper thoracic technique page 26.

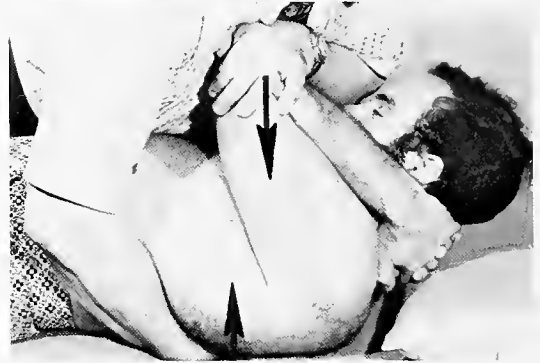


THORACIC MANIPULATIVE TECHNIQUES



Mid-Thoracic—Supine with Cervical Leverage—2nd Method—The lesion is on the right. The patient is supine with his arms crossed over his chest, with each hand grasping the opposite shoulder. The physician stands on the left side of the table, and rolls the patient towards him by lifting the patient's shoulder. The physician then passes his right hand under the patient's occiput to support the patient's head and to sidebend the thoracic column down to the lesioned area. The physician's left thenar eminence is placed under the lower of the two lesioned vertebrae. The patient is then returned to a supine position and his elbows are placed in the physician's axilla. The thrust is through the upper of the two in lesion. This procedure is changed if the lesion is on the left.

Mid and Lower Thoracic Techniques — Supine — 3rd Method — The lesion is on the left. The physician stands on the right side of the table. The patient is supine with his hands clasped behind his neck. The physician rolls the patient towards him by lifting the patient's shoulder and then places his right thenar eminence under the lower of the two vertebrae in lesion. The patient is returned to a supine position and his elbows are placed in the physician's axilla with the physician's left hand and forearm on the patient's elbows to increase the kyphosis of the thoracic spine. The corrective thrust is directed toward the upper of the two in lesion which is above the hand fulcrum. The procedure is changed if the lesion is on the right.



Mid and Lower Thoracic — Sitting and Backward Bending — The patient is sitting with the physician in back of him. The patient's hands are placed flat on his back, one over the other so as to contact the lower of the two lesioned vertebrae. The physician passes his hands under the patient's arms, reaches around and clasps his hands across the patient's chest. The physician's sternum or abdomen contacts the patient's hands. The physician then draws backward with his arms and simultaneously thrusts forward with sternum or abdomen.



THORACIC MANIPULATIVE TECHNIQUES



Mid and Lower Thoracic — Sitting with Sidebending and Rotation — The patient sits with his hands clasped behind his neck and his elbows forward. The physician is in back of the patient and reaches across with his right arm under the patient's upper arm and grasps the patient's left upper arm and draws him in rotation. The physician's left arm reaches around in front with his forearm on the patient's thigh and his hand grasping the table between the patient's legs. This anchors the patient's pelvis while the physician produces extreme rotation and then back into 45 degrees backward bending. (This is a non-specific technique.)



Mid and Lower Thoracic — Prone Technique for Sidebending Lesions — The patient is prone with a pillow placed under his abdomen. The physician stands on the side of the high transverse process. The physician places the hypothenar eminence of the hand with the fingers pointing caudad on the high transverse process. The thenar eminence of the hand with the fingers pointing cephalad is placed on the low transverse process. The patient is instructed to breathe deeply and as he starts to exhale a thrust is delivered with both hands simultaneously in the direction in which the fingers are pointing.



Mid and Lower Thoracic Technique — Prone with Elbows Resting on Table — The patient is prone and resting on his elbows with his arms vertical and each hand grasping the opposite forearm. The physician is at the side of the table, pressing down on the occiput and producing a forward bending of the cervical spine. The other hand straddles the spinous process of the lower of the two vertebrae in lesion with the fingers pointing toward the pelvis. The pressure on the occiput is maintained while a thrust is made with the other hand.

THORACIC MANIPULATIVE TECHNIQUES

Mid and Lower Thoracic Technique — Sitting or Standing with Backward Bending Thrust —

The patient is sitting or standing with his hands clasped behind his neck. The physician passes his forearms under the patient's arms and grasps the patient's wrists. The physician's sternum (or a pillow) is placed posterior to the lower of the two vertebrae in lesion. The patient is instructed to breathe deeply and on exhalation, the physician delivers a thrust in a forward direction with his sternum against the pillow while pulling backwards on the patient's arms.



Mid and Lower Thoracic Technique — Sitting with Patient Facing Physician —

The patient is sitting. The physician faces the patient and crosses the patient's arms placing the patient's elbows in his supraclavicular area. The physician turns the patient's face away from him and reaches around both sides of the patient contacting the transverse processes of the lower of the two vertebrae in lesion. The physician steps backward drawing the patient toward him, placing the spine in backward bending and thrusts by pulling the patient toward him with both hands simultaneously.





First Rib Technique—Supine — 1st Method—
The lesion is on the left. The patient is supine and the physician is at the patient's head. The physician places his right hand on the patient's head and forward bends and rotates the cervical spine away from the side of the lesion and sidebends the cervical spine towards the side of the lesion. The index finger of the left hand is on the upper surface of the first rib close to the cervical column. The thrust is given in a downward slightly medial direction with the index finger. The procedure is changed if the lesion is on the right.



First Rib Technique—Supine — 2nd Method—
The lesion is on the left. The patient is supine and the physician stands on the right side of the table. The physician's left hand grasps the patient's right upper arm, lifting the patient's shoulders high enough to allow him to pass his right arm under the patient so that the fingers of that hand can be placed over the left first rib. The physician then allows the patient to rest on his right arm. The physician's left hand is placed on the patient's right cervical area, with the fingers extending backward under the occiput. The thumb of the left hand is in front of the ear extending upward toward the temporal area. With his left hand the physician produces a slight flexion (forward bending), left sidebending and right rotation until he feels confident that he has locked the cervical spine down to the area in lesion. The thrust is delivered by a sudden pull by the right hand applied to the first rib along the axis of the forearm upon which the patient is resting. The procedure is changed if the lesion is on the right.



RIB MANIPULATIVE TECHNIQUES

Upper Rib Technique (Second through Fourth Ribs) — Prone — The lesion is on the right. The patient is prone and the physician is at the head of the table. A pillow is placed under the patient's chest so that his chin and mandible may act as a fulcrum. The physician then places his left hand on the patient's right temporal area and rotates the occiput away from the side lesioned (right rotation). This rotation is continued until the patient's right shoulder is seen to begin to rise from the table. The physician's right hand is placed on the angle of the rib in lesion and a thrust in a downward direction is delivered with the right hand. The procedure is changed if the lesion is on the left. Note: these prone techniques are not advised for 1st rib dysfunctions and are contraindicated in presence of extensive or painful cervical involvement.



Fifth Through Twelfth Ribs — Supine — For these rib lesions, the supine thoracic technique as previously taught can efficiently be used by moving your fulcrum lateral to the thoracic transverse process or the angle of the rib in lesion. The corrective thrust is then given in a direction through the vertebra to which the rib is attached. This causes a separational stress at the costo-transverse articulation and a gliding motion of the costo-vertebral articulation.





Floating Rib Technique — Prone — The lesion is on the right. The patient is prone with his legs flexed and knees together. The physician stands at the patient's left side and using his right hand draws the patient's ankles towards himself. The physician presses downward towards the table with the left hand on the lesioned rib. This tension is maintained while the patient inhales and exhales several times, quickly and forcibly. The procedure is changed if the lesion is on the left.



Floating Rib Technique—Lateral Recumbent— The patient is in a lateral recumbent position with the lesioned rib away from the table. The physician is in front of the patient, flexing the patient's thighs and legs 90 degrees and drawing the patient toward him so that the legs can be dropped off the side of the table. The physician then presses downward on the legs while drawing the lesioned rib toward him with the opposite hand. Again the patient breathes quickly and deeply several times. In these techniques no thrust is employed, because the correction is accomplished by breathing, and with the tension applied as described above.

LUMBAR MANIPULATIVE TECHNIQUES

Sitting with Patient Straddling the Table—1st Method—The patient is sitting near the end of the table, straddling it and facing towards the center of the table. The physician is standing in back of the patient. The patient clasps his hands in the back of his neck with his elbows directed forward. The physician passes his right forearm under the patient's right upper arm grasping the patient's left upper arm with his right hand. The physician's left hand is placed posterior to the right transverse process of the lower of the two in lesion. With the right hand, the physician forward bends the patient's spine, rotating it to the right, and carrying it into backward bending while maintaining pressure in a forward direction with the left hand.



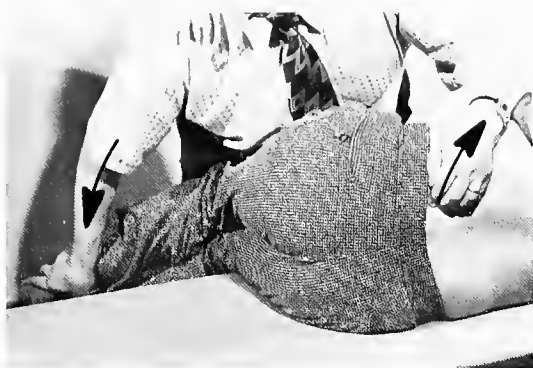
Variation—The physician places his left thenar eminence on the right side of the spinous process of the upper of the two in lesion maintaining a pressure with this hand in a crosswise or lateral direction to the left. With the right hand, the physician produces a forward bending rotation and then carries it into backward bending. In this case, the backward bending is not as complete as in the former method and the inertia below the lesion acts as a counterforce.



Sitting with Patient Straddling Table — 2nd Method — The patient has his arms crossed with his hands resting on his shoulders. The physician stands behind the patient on the side of the convexity in such a position that he can press downward on the shoulder nearest him (convex side) while he pushes against the spinous process in the lumbar area with the other hand. The pressure is applied to the convex side in a crosswise direction.



LUMBAR MANIPULATIVE TECHNIQUES



Scoliosis Technique — The patient is in a lateral recumbent position with the convexity of the scoliosis toward the table. The physician stands in front of the patient and fixes the patient's legs on his thighs and the patient's thighs on his abdomen. The legs are dropped over the side of the table and allowed to hang. The physician presses downward on the legs while lifting the lumbar column with the opposite hand. This is a springing type motion and tends to reduce the curvature.



Lumbar Mobilization in the Presence of Scoliosis and Sidebending Lesions — The patient is in the lateral recumbent position with the convexity of the lumbar curve away from the table. The physician locks down to and including the upper of the two vertebrae in lesion by drawing forward on the lower shoulder. The patient's uppermost leg is dropped off in front of the table. The physician stands in front of the patient and places his elbow against the upper shoulder, grasping the patient's elbow with his hand in a manner such that he can push downward on the arm while he thrusts in a cephalad direction with the opposite hand against the crest, trochanter, and tuberosity of the ischium.



Lumbar Modification — The lesion is on the right. The patient is prone and the physician stands at the side of the table opposite the lesion. The patient's right leg (on the side of the lesion) is flexed 90 degrees and is drawn over the opposite proximal popliteal space. Pressure is applied to the right ankle, producing rotation from below upward. The left thenar eminence is placed on the transverse process of the upper of the two in lesion. The physician's thrust is delivered with this hand in a downward, lateralward direction. The procedure is reversed if the lesion is on the left.

Modification A — Both of the patient's legs are flexed 90 degrees and drawn to the opposite side of lesion and then the same technique is used.

LUMBAR MANIPULATIVE TECHNIQUES

Hip Joint—The patient is in a supine position. The physician flexes the patient's leg on his thigh and then the patient's thigh against his abdomen. The flexed leg is then adducted until the knee is over the opposite anterior iliac spine. The physician stands at the side of the flexed leg facing the table and places his clasped hands over the knee and delivers a thrust downward towards the table along the axis of the femur.



Symphysis Pubis—The patient is in a supine position. His lower limbs are partly flexed with his feet resting on the table and his knees approximated. The patient is now instructed to open and separate the knees against the physician's carefully regulated resistance. This is repeated several times, gradually increasing the tension. The reverse resistance can also be employed. The patient contracting his abductor muscles and bringing his knees together against the operators resistance.



INNOMINATE AND SACRAL TECHNIQUES



Posterior Iliac (Innominate) (Anterior Sacral)—The lesion is on the left. The patient is in the right lateral recumbent position with the physician facing the patient. The physician places the index finger of his right hand on the left posterior superior spine of the ilium. With his left hand he then grasps the patient's right lower arm and draws the shoulder forward locking down to and including the lumbo-sacral articulation. The physician then places his left hand on the patient's uppermost shoulder. The right leg of the patient is kept extended and the left foot of the patient is placed in the right popliteal area. Maintaining the locking with his left hand on the uppermost shoulder, the physician may direct a corrective thrust with either the hypothenar eminence or with the left forearm in a downward-forward direction high on the crest of the ilium towards the umbilicus. The procedure is changed if the lesion is on the right.



Anterior Iliac (Innominate) (Posterior Sacral)—The lesion is on the left. The patient is in the right lateral recumbent position with the physician facing the patient. The physician places the index finger of his right hand on the left posterior superior iliac spine. With his left hand he then grasps the patient's right lower arm drawing the shoulder forward and locking down to and including the lumbo-sacral articulation. The physician then places his left hand on the patient's uppermost shoulder. The right leg is kept in a flexed position on the table and the left leg is dropped over the side of the table and allowed to assume its own position without any assistance from the physician. The patient's foot must not be in contact with the floor. Maintaining the locking with his left hand on the patient's shoulder, the physician places his right forearm on the ischial spine and delivers a corrective thrust through the femur in a downward-forward direction towards the table and the physician. The procedure is changed if the lesion is on the right.

INNOMINATE AND SACRAL TECHNIQUES

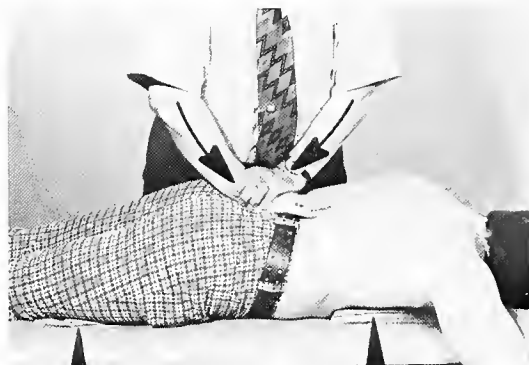
Posterior Iliac (Innominate) Anterior Sacral)—

The lesion is on the right. The patient is prone. The physician uses four pillows, two under the patient's thighs and the other two under the abdomen, to keep the pelvis free of the table. The physician stands to the left side of the patient. One hand is placed (reinforced by the other) over the right posterior superior iliac spine. The correction is made by a downward springing pressure. The procedure is changed if the lesion is on the left.



Anterior Iliac (Innominate) (Posterior Sacral)—

Same position as above except that the pressure is applied to the left side of the posterior surface of the sacrum but medial to the left posterior surface of the iliac spine. This procedure is changed if the lesion is on the left.



Posterior Iliac (Innominate) (Anterior Sacral)—

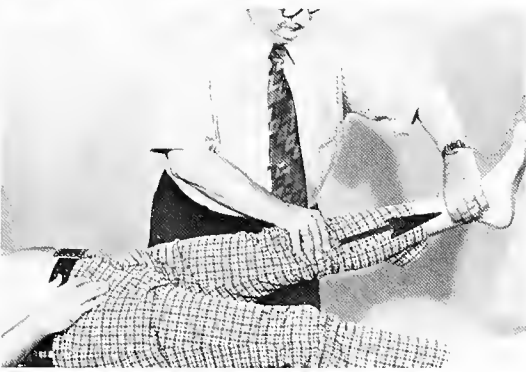
The same position as the preceeding except that the thigh is adducted and internally rotated while forcibly extending the leg.



INNOMINATE AND SACRAL TECHNIQUES



Anterior Iliac (Innominate) (Posterior Sacral)—The lesion is on the left. The patient is supine. The physician is to the left side of the patient. He grasps the patient's left leg at the ankle with his left hand, and places his right hand over the left patella. Now the physician flexes the patient's leg and thigh. Corrective procedure is made with abduction and external rotation of the thigh, while forcibly extending the leg. The right leg is used if the lesion is on the right.



Posterior Iliac (Innominate) (Anterior Sacral)—The patient is supine. The lesion is on the right. The physician flexes both legs and thighs, placing the patient's knees in his right axilla. The other hand is placed under the posterior superior iliac spine on the right side. The physician rolls over the patient so that the weight of the pelvis and legs rests on the fulcrum. The physician presses downward on the patient's knees. The procedure is changed if the lesion is on the left.



Anterior Iliac (Innominate) (Posterior Sacral)—Same as above, except that the fulcrum is placed under the left side of the base of the sacrum but medial to the left posterior superior iliac spine. The procedure is changed if the lesion is on the left.

Post Iliac (Innominate) (Anterior Sacral)—The lesion is on the left side. The patient is supine with the left leg and thigh flexed at right angles. The patient is moved over so that the left ilium (innominate) is free of the edge of the table. The physician clasps both his hands over the patient's left knee. The physician makes a corrective thrust downward towards the table on a line with the left femur. The procedure is changed if the lesion is on the right.



Modification—Anterior Iliac (Innominate) (Posterior Sacral)—The same position as the preceding except that the left knee is pressed over until it is above the right anterior superior iliac spine before the corrective thrust is made. The procedure is changed if the lesion is on the right.



Post Iliac (Innominate) (Anterior Sacral)—The lesion is on the left. The patient is prone with the physician standing on the right side. The patient's left leg is drawn over to the right. The physician places his left leg between the patient's knees. The physician now places his left hand, reinforced by his right hand, over the left posterior superior iliac spine. The corrective thrust is in a downward direction toward the table. A springing type correction may be used in this position. The procedure is changed if the lesion is on the right.



Modification—Anterior Iliac (Innominate) (Posterior Sacral)—The same position as the preceding except that the hands are placed over the left side of the base of the sacrum but medial to the right posterior superior iliac spine. The procedure is changed if the lesion is on the right.



INNOMINATE AND SACRAL TECHNIQUES



Posterior Iliac (Innominate) (Anterior Sacral)—Lesion is on the left side. The patient is in the right lateral recumbent position, with the right arm dropped back and off the side of the table (Sim's Position), with the physician standing behind the patient's pelvis. The physician places his right hand in such a position that he can exert a forward pressure against the posterior superior iliac spine of the lesioned side. The patient's legs and thighs are flexed at right angles. The physician grasps the left knee, producing in order named: flexion, abduction, and finally extension.

Modification — Anterior Iliac (Innominate) (Posterior Sacral)—Same as above, except that the physician's right hand is placed posterior to the left side of the base of the sacrum.

Posterior Iliac (Innominate) (Anterior Sacral)—

Lesion is on the left. The patient is in the right lateral recumbent position with the right arm dropped back and off the table (Sim's Position), with the physician standing behind the patient's pelvis. The physician's left forearm is passed under the thigh with the left hand resting on the anterior superior iliac spine. The right thenar eminence of the physician is placed posterior to the posterior superior iliac spine. Now the thigh is elevated slowly, testing for the point at which relaxation occurs, this being about 12 to 15 inches. This elevation is maintained while the thigh is carried into extension meanwhile pressing forward with the thenar eminence of the right hand of the physician.



Modification—Anterior Iliac (Innominate) (Posterior Sacral) — Same as above except the physician's right hand is placed posterior to the left side of the base of the sacrum.



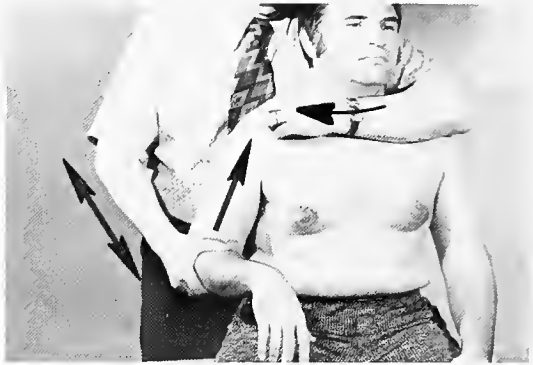


Posterior Iliac (Innominate) (Anterior Sacral) — The patient is supine with the physician standing at the foot of the table. The physician grasps the ankle on the lesioned side with both hands. The foot is now elevated about six inches above the table. The physician applies traction and instructs the patient to breathe deeply several times. The corrective force is a sudden traction-like pull as the patient begins to exhale after a full inspiration.



Modification—Anterior Iliac (Innominate) (Posterior Sacral) — Same as above except that the foot is held about 18 to 20 inches above the table.

Test for Motion— The patient is sitting with arms relaxed and elbows flexed. The physician's right hand grasps the patient's right elbow and lifts upward on the arm while palpating the articulation with the opposite hand. The procedure is reversed for the testing the left acromio-clavicular articulation.



Elevated Clavicle — The lesion is on the left. The patient is sitting and the physician is standing behind the patient. The physician places his right index finger over the middle or lateral third of the left clavicle and presses downward. The physician's left hand grasps the patient's left proximal forearm drawing the arm backward into circumduction and finishing with the arm across the patient's chest. This maneuver lifts the scapula up to the clavicle. The procedure is changed if the lesion is on the right.





Depressed Clavicle — The lesion is on the left. The position is same as the preceding technique with the patient sitting and the physician standing behind the patient. The physician's right index finger presses downward on the medial third of the left clavicle and on the left scapula. Circumduction begins from an anterior position, lifting the clavicle up to the scapula.



STERNO-CLAVICULAR MANIPULATIVE TECHNIQUES

Elevated Clavicle at the Sterno-Clavicular Joint

— The lesion is on the left. The patient is sitting with the physician standing behind the patient. The physician's left hand grasps the patient's left forearm, and with his right hand reaching across the front of the patient he presses downward on the left sternal end of the clavicle with his right thumb. Now from an anterior position he begins circumduction with his left hand, thus causing the sternal end of the clavicle to go downward. The procedure is changed if the lesion is on the right.

The last 2 techniques are interchangeable.



Spencer Techniques—with Variances

A. Position

1. The Spencer Technique is done with the patient lying on his side with the injured shoulder up.
2. The patient's back should be approximately perpendicular to the table and with the under elbow forward. If the elbow next to the table is behind or under the patient, the patient's position is angled too far forward.
3. The pillow should be in proper height in relation to the patient's lower shoulder width, so that the head is supported comfortably without too much drag on the neck and shoulder muscles.
4. The lower knee is drawn up to provide a firm anchorage for the hips and lower extremities.



B. Approach

1. The patient must be approached according to the tenderness and discomfort present. He should not however be handled so gently that he is constantly fearful of slipping from the physician's hands without warning.

C. Treatment—First Stage

1. The physician stands in front of the patient with the hand nearest the patient's feet grasping the wrist and lower forearm of the arm to be treated.
2. The other hand of the physician is placed on top of the patient's shoulder to anchor the shoulder girdle and localize the stretching influence on the shoulder joint. (If this is not done, the shoulder girdle will ride all over the upper ribs, and there will be little or no influence on the shoulder girdle.)
3. The patient's arm is then moved back and forth in a horizontal plane with the elbow rather sharply flexed. The backward motion of the elbow is carried to the extreme limit permitted by the capsule of the shoulder.
4. The amount of firmness manifested in the stretch will vary with the severity of the injury and the condition of the tissues.
5. In all of these moves, only gentle pressure is used.
6. Each move is repeated 8 to 10 times for the first 2 or 3 treatments to determine the ability of the tissues to react. If the results warrant it, the effort involved can be stepped up and the physician can be sure that the patient will not be frightened away by unnecessary painful reactions to the early treatments.

SHOULDER TECHNIQUES

Second Stage

1. The patient's arm is fully extended.
2. The wrist is firmly grasped by the corresponding hand of the physician and the patient's arm is carried horizontally in a forward arc to the point where the arm is in a line with the body and covers the ear in a patient with a normal range of motion. In the patient with an abnormal range of motion the arm is carried in the upward swing as far as possible with reasonable comfort.
3. The physician should remember to keep comfortably balanced on his feet and to carry the patient's arm with an easy smooth rhythmic swing of the body.
4. Working the patient's arm like a pump handle will not accomplish any beneficial results.



Third Stage

1. The patient's elbow is flexed and pointed upward with the arm at a right angle to the patient's body.
2. The physician's other hand, on the side of the patient's head, firmly holds the shoulder down on the ribs while the elbow is slowly rotated in small concentric circles clockwise and counter-clockwise. The concentricities of the circles are increased to the maximum tolerance of the patient. (The maximum circle that the capsule will permit.)



Fourth Stage

1. Extending the elbow and grasping the patient's wrist, the physician holds down the shoulder with his free hand and moves the patient's arm in the same progressive concentric circles, clockwise and counter-clockwise to the maximum as above. When the fully extended arm is being carried in a complete circle, the best results are obtained by always maintaining even positive extension or traction.
2. In an injured shoulder, the hand does not describe a perfect circle.
3. Sometimes, owing to adhesions, the upper segment of the circle is flat. However, by the use of careful, steady pressure through this portion of the swing, these adhesions are gradually and usually overcome.
4. These last two steps must be taken with extreme care and with due regard to the advantage which the physician has in his leverage.



SHOULDER TECHNIQUES



The fifth and sixth stages must not be used until the patient's reactions have been tested by the other four procedures, and the physician is sure that the patient's progress has reached the point where the patient will be benefited by them.

Fifth Stage

1. The physician's hand closest to the patient's head is placed on top of the patient's shoulder.
2. The patient's elbow is flexed and the patient's hand rests just in front of the physician's elbow on the forearm.
3. Now with a gentle upward pressure exerted on the patient's elbow, the physician swings it towards the patient's head, balancing his weight from one foot to the other in order to get an easy rhythmic swing backward and forward.

Sixth Stage

1. The patient's hand is placed just in back of the lower ribs, close to the lumbo-sacral junction and just far enough to prevent it from sliding forward when pressure is applied to the elbow. The elbow is flexed and pointing directly upward.
2. The physician's hand closest to the patient's head, holds the shoulder while the physician's other hand is used to draw the patient's elbow forward and downward with a gentle and firm motion.
3. The elbow is allowed to return to the starting point and then the movements are repeated.



Seventh Stage

1. This stage may start and end the treatment.
2. The patient's elbow is extended so that the physician can slide his shoulder (the one toward the patient's feet) under the patient's hand, thus supporting the injured arm. Now both hands grasp the deltoid area side by side and with a gentle up and down pumping motion and with traction of the arm, the physician's hands are alternately grasped firmly and then relaxed on the soft tissue around the patient's shoulder. The patient's arm is simultaneously raised and lowered by the motion of the physician's body.

In all of these procedures, the physician should cultivate the easiest standing position with the feet comfortably spaced to allow an easy shift of weight from one foot to the other. This produces a smoother rhythmic swing to the manipulation, and automatically avoids the sharp, quick movements which give little therapeutic benefit and may produce unnecessary discomfort for the patient.



Three Stage Traction — Shoulder Girdle

The three stages are described for a patient with a left shoulder somatic dysfunction. The procedures are changed for a patient with a right shoulder lesion.

Stage I—The patient is supine with the physician seated on a stool at the head of the table. The physician's left index finger is placed in the posterior axillary fold and the right index finger is placed in the anterior axillary fold, with the physician's right forearm resting across the upper portion of the patient's chest wall. With both index fingers, the physician now applies traction in a cephalad direction in an alternating traction and release manner for a total time of approximately 30 seconds.



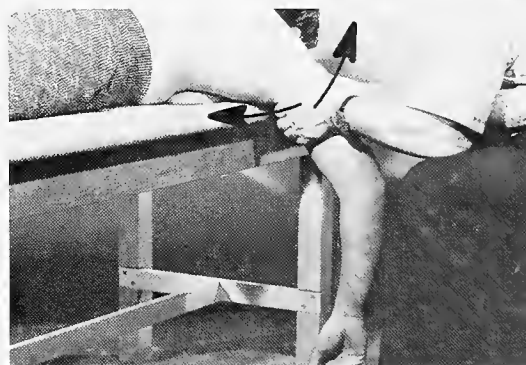
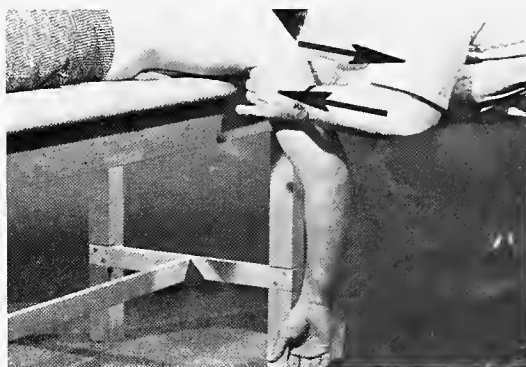
Stage II—Maintaining the same position as in stage I, the physician asks the patient to reach across the chest wall with his right hand and to grasp his left arm just above the left elbow. The patient then applies a lifting force to his left arm so as to offer resistance as the physician is applying traction at about a 60 degree vector force downward with both index fingers in a traction and release manner as described in stage I.



Stage III—The patient is maintained in the same position as stage II. The physician now applies steady traction in a cephalad direction with both index fingers as the patient raises the arm gradually off the table and simultaneously pronates and supinates the hand and arm. This stage is also performed for approximately 30 seconds.



Glenoid Labrum Technique—Normalizing Technique, Right Shoulder Involvement—The patient is prone with the right arm hanging over the side of the table. If fingers are touching the floor, elevate the patient by placing as many small pillows under the chest as are needed to allow the fingers to be about 2-3 inches above the floor. The physician encircles the head of the humerus with both hands, his thumbs resting on the upper edge of the humerus and the fingers encircling its posterior aspect. The physician rocks the head of the humerus backwards and forwards, and then rotates the head of the humerus clockwise and counter-clockwise. The physician now draws the head of the humerus downward and applies a figure eight motion in an anterior and posterior direction.





Wrist Joint — The patient is seated and the physician faces the patient grasping the patient's hand in his two hands with his fingers under the palm of the hand on the medial and lateral sides. The physician's thumbs extend over the dorsum of the hand coming to rest on the distal end of the radius and ulna. Mobilization is accomplished by circumduction and carrying the wrist into forceful dorsi-flexion while pressing firmly downward with the thumbs.

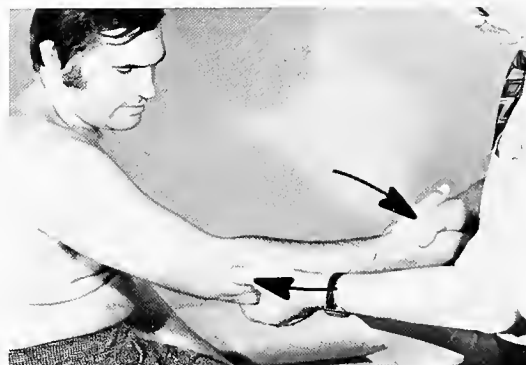


Intercarpal Articulation — The patient is seated. The physician stands facing the patient and grasps the patient's hand in his two hands with his fingers under the palm of the hand on the medial and lateral sides. The physician's thumbs are now placed on the patient's row of carpal bones. Mobilization is accomplished by circumduction and carrying the wrist into forceful dorsiflexion while pressing firmly downward with the thumbs.

Test for Motion—Part A—A radio-ulnar lesion will interfere with supination of the hand. The patient is instructed to approximate the elbows with the forearms parallel to each other, and the hands in full supination in front of the chest. The patient then extends the arms as far forward as he can, keeping the elbows as close together as possible. If a radio-ulnar lesion is present, the hand on that arm will tend to pronate.



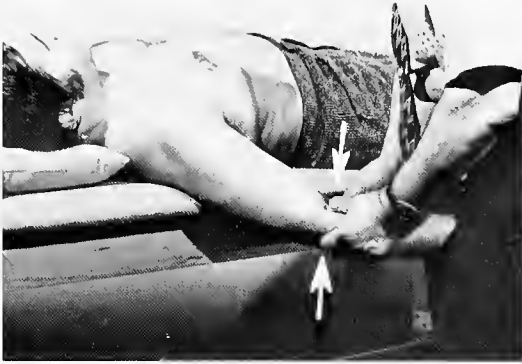
Test for Motion — Part B — Grasp the patient's hand as though you were going to shake hands. Place the thumb of the other hand posterior to the head of the radius and pronate and supinate the hand. Free motion in rotation should be felt at the radial head if it is not lesioned.



Corrective Technique — With the patient sitting, maintain the position as described above in Test for Motion Part B. The physician now places the patient's forearm into extension with the hand in supination while pressing forward on the head of the radius with the thumb. The physician then places the wrist of the lesioned arm under his axilla, pressing it firmly against his body. Without removing the thumb from the head of the radius, the physician's hands encircle the patient's elbow with his thumbs uppermost. The fingers of one hand reinforce the other hand posterior to the head of the radius. Moderately carry the elbow into extension with thumb pressure maintained over the head of the radius and producing some traction on the arm with the physician's axilla.



RADIO ULNAR AND WRIST TECHNIQUES



Variation — The patient is supine with his involved arm over the side of the table. The wrist of the lesioned arm is placed between and slightly above the slightly flexed physician's knees. The physician's hands encircle the patient's elbow with his thumb uppermost. The fingers of one hand reinforce the other hand posterior to the head of the radius. The correction is accomplished by a sudden upward lift with both hands thus exerting a pressure posterior to the head of the radius while at the same instant, traction is applied by the physician straightening his knees.



Variation — Lesion of the Right Elbow — The patient is sitting. The physician places the wrist of the lesioned arm under his axilla pressing it firmly against his body. The physician's hands encircle the patient's elbow with his thumbs uppermost and the index finger of the left hand posterior to the head of the patient's radius. The physician now carries the elbow gently into extension, while producing a traction on the arm using his axilla. The procedure is changed if the lesion is on the left elbow.



KNEE MANIPULATIVE TECHNIQUES

Posterior Displacement of the Tibia in Relation to the Femur — A. The lesion is at the right tibia. The physician has the patient prone with his right lower extremity hanging over the side of the table or perhaps both extremities hanging over the table so that the pelvis is held firmly on the table. The right knee is bent to a right angle. The physician grasps the patient's right ankle with his left hand and uses his right hand to steady the patient's pelvis. The physician bends his right knee and places it behind the proximal end of the patient's right calf and then with his knee applies a thrust towards the floor. This automatically makes the tibia move forward on the femur, since the femur is secured by the pelvis fixed on the table, and the tibia being held in a position of 90 degrees flexion. The procedure is changed if the lesion is on the left.



B. The lesion is at the left tibia. The physician has the patient prone on the table and has the patient lift his left lower leg to about 90 degrees flexion. The physician encircles the proximal end of the patient's left calf and places the dorsum of the patient's left foot over his right shoulder. Now as the physician applies a force parallel to the table against the posterior aspect of the left tibia, he simultaneously lifts up the dorsum of the foot so that the foot goes into plantar flexion. The procedure is changed if the lesion is on the right.



Posterior Fibular Lesions — 2nd Method — The lesion is on the left. The physician has the patient lying prone on the table which allows for greater relaxation of the biceps femoris muscle because it is not flexed. The physician stands on the right side of the table and places his right hypothenar eminence behind the left knee. He then simultaneously applies pressure with his right index finger against the left fibular head while his left hand externally rotates the left foot and pushes the lower leg downward towards the thigh. The procedure is changed if the lesion is on the right.



Posterior Fibular Lesions — 1st Method — The lesion is on the right. The patient is supine. This procedure involves three different maneuvers which are continued until point release is achieved. The first maneuver is extreme flexion of the right knee against the wedge of the left hand. Secondly, the wedge is applied with increasing firmness to the fibular head. For the third maneuver the physician's right hand rotates the tibia extremely to bring the fibula which is being forced anteriorly by the wedge. The procedure is changed for lesions on the left.





Antero-Medial Displacement of the Left Medial Meniscus — The patient lies supine on the treatment table. The left thigh and knee joint are flexed by placing the left lower leg and ankle in the physician's left axilla. This position is maintained by the patient's leg being held between the physician's thoracic cage and his left upper arm. The physician's left thumb is placed over the antero-medial aspect of the joint space where the displacement has occurred. The rest of the fingers of the left hand circle the posterior aspect of the tibia (the fingers should be distal to the joint space). The physician's right hand is placed at the lateral aspect of the left knee joint just distal to the joint space. The positions as described are maintained as the physician starts the forces in motion which causes an antero-medial gapping of the left knee joint space. Finally, the physician's left thumb exerts pressure at the gapped joint space while downward traction is applied and the antero-medial displacement of the medial meniscus is corrected. The procedure is changed if the lesion is on the right.

Ankle Joint — The patient is supine and the physician stands at the foot of the table. The physician interfaces his fingers over the dorsum of the foot, just distal to the ankle joint. The physician's thumbs are under the sole of the foot. The separation is in a longitudinal direction and is accomplished by a mild traction followed by a sudden pull.



Ankle Joint — Second Method — The patient is supine and the physician is at the side of the table. The physician flexes the patient's leg on the patient's thigh and the thigh on the abdomen. The patient's knee is directed enough laterally so that the physician can insert his elbow into the popliteal space. It is this hand that is placed across the back of the patient's heel with the thumb under the medial malleolus and fingers under the lateral malleolus. The opposite hand contacts the dorsum of the foot just below the ankle joint with the thumb on the medial side and the fingers laterally placed. As the thigh is forcibly flexed on the abdomen, pressure is brought to bear in a downward direction by keeping the wrist stiff. As this traction on the ankle increases, the opposite hand also presses in a downward direction, preventing dorsiflexion of the foot. While maintaining this traction, the ankle joint is put through its range of motion, at which time, a correction may be accomplished.





Talo-Tibial and Talo-Calcaneal Artculation —

The patient sits on a table or chair with his knee at the end of the table. The physician grasps the heel with one hand, while the other hand grasps the dorsum of the foot, well back toward the ankle. Traction is exerted downward to take all the slack from the articulation. The articulation is then put through its normal range of motion, at which time, a correction may be accomplished.



General Springing of the Tarsal Joints, Left Foot —

The physician grasps the patient's foot with his left hand and places his fingers across the dorsum of the ankle joint and his thumb underneath the sustentaculum tali. His right hand grasps the forepart of the foot with his fingers over the dorsum of the toes and his thenar eminence against the ball of the foot. The physician uses his left hand to produce a rotary motion in a counter-clockwise direction. The procedure is changed for the right foot.

Technique to Produce Motion at the Outer Tarsal Joints, Left Foot — The patient is sitting. The physician's left hand grasps the patient's left foot with his fingers across the dorsum and his thumb on the plantar surface. The right hand grasps the lateral aspect of the foot with the 3rd, 4th, and 5th fingers curled underneath the cuboid bone and the thenar eminence placed on the dorsal surface of the outer two metatarsal shafts. The physician inverts the patient's foot slightly and makes a thrust upward and outward with the fingers of the right hand, and downward and inward with the thenar eminence of the same hand. The procedure is changed for the right foot.



Technique to Produce Motion at the Inner Tarsal Joints, Left Foot — The left thumb is placed across the plantar surface of the foot so that the webbing between the fingers and thumb is held firmly against the inner aspect of the 1st cuneiform bone with the fingers across the dorsum of the foot. The right hand is placed over the dorsum of the metatarsal shafts with the thenar eminence on the two medial metatarsal shafts. The left hand is carried up and laterally as the right hand is carried down and medially. The procedure is changed for the right foot.



ANKLE AND FOOT TECHNIQUES



Metatarso-Phalangeal Joint Motion, Left Foot — Grasp the foot with the left hand so that the thumb is placed under the metatarsal head of the toe to be corrected. The finger and thumb of the right hand grasps the toe and exerts traction and flexion, removing all slack in the joint. A slight increase in traction and flexion with a slight upward thrust on the metatarsal head with the thumb of the left hand will produce motion. This procedure should never be used on the great toe. The procedure is changed for the right foot.



Correction of Tarsal Displacements — The patient stands with his back to the physician and flexes his lower right limb. The physician's thumb (either hand) is placed on the plantar surface of the bone to be corrected and is reinforced by the other thumb. The fingers of the lateral hand encircle the dorsum of the foot with the index finger along the bases of the metatarsals. The fingers of the medial hand reinforce those of the lateral hand. With a firm grip, but relaxed wrists and arms, a slight snapping motion is produced in a manner of cracking a whip, thrusting the foot forward maintaining a fulcrum with the thumbs. The direction of force depends on the angle of the joint to be corrected. For the *cuboid bone*, the thrust is made at a 45 degree angle laterally. For the internal cuneiforms and navicular, the thrust is made directly forward.

Spring Action Technique, Left Foot — The patient is sitting or lying supine. The physician places the thenar eminence of his right hand on the lateral aspect of the cuboid bone, the fingers curling around the heel. The fingers of the left hand are placed on the dorsum of the transverse arch with the thumb on the plantar surface, so that the webbing between the thumb and first finger presses against the inner aspect of the navicular and the first cuneiform bones. The physician exerts pressure medially with his right hand against the cuboid bone and the base of the 5th metatarsal while a lateral motion is made with the right hand. You may repeat this squeezing motion several times. The procedure is changed for the right foot.



LYMPHATIC DRAINAGE



Classical Maneuvers — The patient is supine with his knees flexed, feet on the table, and head rotated to one side. The physician is at the head of the table with his hands spread over the upper thorax, fingers directed outward and the heels of his hands below the clavicles. (Modifications: The palms may be above the breasts, cupping the breasts, or the fingers may be pointed inward between the breasts.) A soft foam rubber pillow may be placed over the upper chest before applying pressure with the palms of the hands. The physician's arms are maintained in as full extension as possible. The pressure is equally distributed over the entire surface of both hands and is applied downward and caudally in a rhythmic manner as explained below.

Modification—Same position except one hand is over the sternum. Same rhythmic pressure.



Modifications of Rhythms—A. A slight pressure is maintained constantly after the patient completely exhales. The pressure is then exaggerated for short intervals, regardless of the respiratory movement. The patient should remain in a relaxed state (100-120 vibrations per minute for 3-5 minutes).

B. The pressure is applied after complete exhalation and relaxed with inhalation. The patient increases his respiratory rate to 18-24 cycles per minute.



Modification 1 — The patient is supine and the physician is on the right side of the patient. The patient's right arm is extended and abducted by the physician's left arm. The physician's right hand is placed over the lateral and anterior chest wall with his fingers upward and toward the sternum. There is traction applied to the patient's right arm by the physician's left hand during inhalation. A gentle pressure is applied to the patient's chest by the physician's right hand during exhalation. The patient increases his respiratory rate to 18-24 cycles per minute.

LYMPHATIC DRAINAGE

Modification II — The patient is supine. The physician is at the head of the table. The physician's left hand grasps the patient's left wrist, extending and then abducting the upper arm. The physician's right hand, with the heel just below the clavicle (left), applies gentle pressure during exhalation. The left hand applies traction during inhalation. The patient maintains a respiratory rate of 18 to 24 cycles per minute.



Modification III — The patient is supine and the physician is at the head of the table. The patient's hands are extended above his head and clasped behind the thighs of the physician. The physician's hands are placed as before on the patient's chest just below the clavicle. Pressure is then applied downward and caudad during exhalation. During inhalation, traction is produced throughout the patient's arms by the physician leaning back against the patient's hands.





Modification IV — Doming the Diaphragm —
The patient is supine, and the physician is to one side facing the patient cephalad. The hands are placed symmetrically with the fingers outspread over the lower three or four ribs. The thumbs are placed under the ribs at about the junction of the eighth and ninth costal cartilages. The thumbs produce a bilateral upward and lateral pressure simultaneously with forced exhalation.

MANDIBULAR DRAINAGE

Mandibular Drainage—(Galbraith's Technique) (Left Side Drainage)—The patient is supine and his head rotated to the right. The physician stands on the patient's right and places his left forearm under the patient's head and his left hand on the left shoulder of the patient. The physician's right hand is placed with his fingers at the temporo-mandibular joint and the thenar eminence along the ramus of the mandible. With the patient's mouth open, the physician produces a downward, anterior and medial traction on the patient's mandible. This is done intermittently and very slowly. The procedure is changed for right mandibular drainage. There are other variations to this technique also.



AURICULAR DRAINAGE

Auricular Drainage — The patient is placed in a supine position as described above with the head again rotated toward the physician. The physician's fingers (2nd and 3rd) are placed on each side of the ear and a clockwise and counter-clockwise motion are used at this area.



ANTERIOR CERVICAL DRAINAGE



Anterior Cervical Drainage (Left Side) — The patient is in a supine position. The physician stands at the patient's right side and places his right hand gently on the patient's left anterior cervical musculature. The physician's left hand steadies the head while it also adds slight left sidebending. The fingers of the right hand remain flat and exert gentle pressure caudad without sliding over the skin. When the skin begins to stretch, pressure is released and reapplied without moving the fingers. This can be done 3-5 movements per second. The procedure is changed for right side drainage.

Modification: The physician may clench all but his index finger and use only that finger to promote drainage. This is particularly useful in small patients.

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